

placing the contained microbeads in a mixing holder for sufficient time for a targeted biological sample to adequately bind the microbeads, adding fluorescent labeled antibodies for attachment to the microbead bound sample, attaching the microbeads to a disposable capture substrate containing an array of attachment sites for attaching the microbeads thereto, washing the substrate and attached microbeads, and inserting the substrate into an optical detection system for optically decoding the microbeads for identification and measurement of the target biological sample.

3. (Amended) The method of Claim 1, additionally including vibrating the mixing holder during the time the contained microbeads are placed therein.

4. (Amended) The method of Claim 1 additionally including designing each of the pattern array of attachment sites on a dipstick to capture a single microbead.

5. (Amended) The method of Claim 1, additionally including locating the patterned array of attachment sites on the substrate at a spatial distance between each as determined by a resolution of the optical detection system.

8. (Amended) The method of Claim 1, additionally including providing each microbead with a different color and containing a substrate capture point and an assay.

9. (Amended) The method of Claim 1, additionally including processing each microbead to contain a capture ligand, and a bioagent-specific antibody, and

with certain of the microbeads also having a target species bound thereto, and a fluorescent labeled antibody attached thereto.

Claims 10-35, cancel.

Please add the following claims:

36. The method of Claim 1, additionally including providing the contained microbeads from the group consisting of optically encoded microbeads, charged microbeads, and microbeads with optically encoded shells.

37. The method of Claim 1, wherein attaching the microbeads is carried out in an ordered array.

38. The method of Claim 1, wherein attaching the microbeads is carried out in a disordered array.

39. The method of Claim 1, wherein attaching the microbeads to a disposable capture substrate is carried out by providing the substrate with a plurality of wells or an array of channels.

40. The method of Claim 1, wherein attaching the microbeads is carried out by an array of magnetic or electrode capture pads.

41. A method for pathogen detection comprising:

containing a quantity of microbeads,

adding a sample and capture legend to the contained microbeads,

adding fluorescent labeled antibodies for attachment to a microbead bound sample,

providing a disposable capture substrate containing an array of attachment sites for attaching the microbeads thereto,

inserting the disposable capture substrate containing the array of attachment sites into the contained microbeads for capturing the microbeads, and

inserting the disposable capture substrate into a detection system for decoding the microbeads for identification and measurement of biological molecules ~~attached to the microbeads.~~

42. The method of Claim 41, additionally including forming the contained quantity of microbeads to be optically encoded.

43. The method of Claim 42, wherein decoding of the microbeads is carried out in an optical detecting system.